

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
16 June 2005 (16.06.2005)

PCT

(10) International Publication Number  
**WO 2005/054237 A1**

(51) International Patent Classification<sup>7</sup>: **C07D 471/04**,  
A61K 31/435, A61P 35/00 // (C07D 471/04, 235:00,  
221:00)

[CH/CH]; Mattenweg 7, CH-4303 Kaiseraugst (CH).  
**STAUFFER, Frédéric** [CH/CH]; Sonnenhofring 10,  
CH-4153 Reinach (CH).

(21) International Application Number:  
PCT/EP2004/013178

(74) Agent: **GRUBB, Phillip**; Novartis AG, Corporate Intellec-  
tual Property, CH-4002 Basel (CH).

(22) International Filing Date:  
19 November 2004 (19.11.2004)

(81) Designated States (*unless otherwise indicated, for every  
kind of national protection available*): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/524,229 21 November 2003 (21.11.2003) US

(71) Applicant (*for all designated States except AT, US*): **NO-  
VARTIS AG** [CH/CH]; Lichtstrasse 35, CH-4056 Basel  
(CH).

(84) Designated States (*unless otherwise indicated, for every  
kind of regional protection available*): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE,  
SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for AT only*): **NOVARTIS PHARMA GMBH**  
[AT/AT]; Brunner Strasse 59, A-1230 Vienna (AT).

(72) Inventors; and

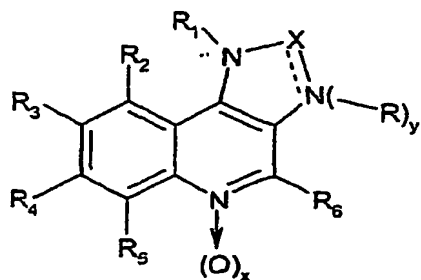
(75) Inventors/Applicants (*for US only*): **CAPRARO,**  
**Hans-Georg** [CH/CH]; Habsburgerstrasse 60, CH-4310  
Rheinfelden (CH). **CARAVATTI, Giorgio** [CH/CH];  
Fuchshagweg 28, CH-4103 Bottmingen (CH). **FURET,**  
**Pascal** [FR/FR]; Rue du Riegelsbourg, 24, F-68800 Thann  
(FR). **GARCIA-ECHEVERRIA, Carlos** [ES/CH]; En-  
gelgasse 126, CH-4052 Basel (CH). **IMBACH, Patricia**

Published:

— with international search report

*For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.*

(54) Title: 1H-IMIDAZOQUINOLINE DERIVATIVES AS PROTEIN KINASE INHIBITORS



(I)

(57) Abstract: The invention relates to imidazoquinolines of formula (I) for use in the treatment of protein kinase dependent diseases; pharmaceutical preparations comprising an imidazoquinoline, especially for the treatment of a protein kinase dependent disease; novel imidazoquinolines; and a process for the preparation of the novel imidazoquinolines.